

Linzer biol. Beitr.	41/2	1175-1189	18.12.2009
---------------------	------	-----------	------------

On the *Pseudomedon* species of the Palaearctic region (Coleoptera: Staphylinidae: Paederinae)

V. ASSING

A b s t r a c t : Based on an examination of types and additional material, ten species of the genus *Pseudomedon* are recognised in the Palaearctic region. Four synonymies are proposed: *Pseudomedon* Mulsant & Rey 1878 = *Euphonus* Fauvel 1902, nov.syn.; *P. obscurellus* (Erichson 1840) = *P. mussardi* Bordoni 1980, nov.syn., = *P. brevipes* (Wollaston 1860), previously a synonym of *P. obsoletus* (Nordmann 1837); *P. mirei* Coiffait 1980 = *P. africanus* Coiffait 1980, nov.syn. A key to species and a catalogue are provided. The male primary sexual characters and external characters are illustrated. The distributions of five species are mapped.

Key words : Coleoptera, Staphylinidae, Paederinae, *Pseudomedon*, Palaearctic region, taxonomy, new synonymies, key to species, catalogue, distribution.

Introduction

The genus *Pseudomedon* Mulsant & Rey 1878 currently comprises 25 species, with twelve species (originally) distributed in the Western Palaearctic region including Middle Asia, four species confined to North America, eight species described from the Afro-tropical region, and one species from Australia (Assing 2008b, Herman unpubl., Smetana 2004). Remarkably, *Pseudomedon* has not been recorded from the Eastern Palaearctic region. With few exceptions from the Western Palaearctic region, none of the *Pseudomedon* species has been revised in recent decades, so that the taxonomic state and generic affiliations of most species, as well as the distribution of the genus as a whole must be considered doubtful. In systematic and phylogenetic respects, the Medonina probably represent the most difficult and unclarified subtribe of the Paederinae.

The Western Palaearctic representatives of the genus have been attributed to two subgenera, the nominate subgenus and *Euphonus* Fauvel 1902. Although Coiffait (1970) suspected that the characters distinguishing the latter from the former (reduced pigmentation, smaller eyes, longer antennae) were merely adaptations to a subterranean habitat and, consequently, of little systematic significance, he continued to treat *Euphonus* as a valid name (Coiffait 1970, 1984). Subsequently, the examination of the types and additional material of *P. huetheri* (Hubenthal 1927), which had previously been attributed to *Euphonus*, raised further doubts that the subgeneric status was justified (Assing 2008b).

Many *Pseudomedon* species are difficult to distinguish based on external characters. It was not until the second half of the 20th century that COIFFAIT (1970) studied and figured the male genitalia of the Western Palaearctic species known at the time. His synopsis also revealed that the two most common representatives of the genus, *P. obscurellus* (ERICHSON 1840) and *P. obsoletus* (NORDMANN 1837) had been both confused (e.g., LOHSE 1964; see also LOHSE 1989) and confounded in the past. Nevertheless, the erroneous zoogeographic data recorded in the literature before 1970 were incorporated in the recent Palaearctic catalogue (SMETANA 2004).

Pronounced di- and polymorphisms of eye size, wing length, and pigmentation have been demonstrated for two Western Palaearctic species, *P. obscurellus* and *P. huetheri*, suggesting that similar phenomena may also occur in other representatives of the genus.

Material, methods and measurements

The material referred to in this study is deposited in the following public institutions and private collection:

HNHM Hungarian Natural History Museum, Budapest (Gy. Makranczy)
 IRSNB..... Institut royal des Sciences naturelles de Belgique, Bruxelles (Y. Gérard)
 MHNG Muséum d'histoire naturelle Genève (G. Cuccodoro)
 MNHNP Muséum national d'Histoire naturelle, Paris (A. Taghavian)
 MNHUB..... Museum für Naturkunde der Humboldt-Universität Berlin (J. Frisch, J. Willers)
 SDEI Deutsches Entomologisches Institut, Müncheberg (L. Behne, L. Zerche)
 cAss..... author's private collection

The morphological studies were carried out using a Stemi SV 11 microscope (Zeiss Germany) and a Jenalab compound microscope (Carl Zeiss Jena) with a drawing tube. For the photographs a digital camera (Nikon Coolpix 995) was used.

Head length was measured from the anterior margin of the clypeus to the posterior margin of the head, elytral length at the suture from the apex of the scutellum to the posterior margin of the elytra.

The maps were generated using the online generic mapping tool (GMT) of the Geomar website at www.aquarius.ifm-geomar.de/omc.

Results

Pseudomedon obscurellus (ERICHSON 1840) (Figs 1-2, 18)

Lithocharis obscurella ERICHSON 1840: 624.

Lithocharis brevipes WOLLASTON 1860: 104 f.; previously a synonym of *P. obsoletus*.

Scymbalium minimum EPPELSHEIM 1888: 408 f.

Medon apfelbecki BERNHAUER 1899: 25.

Pseudodomedon mussardi BORDONI 1980: 218 f.; **nov.syn.**

Type material examined: *L. obscurella*: see ASSING (2008b).

S. minimum: see ASSING (2008a).

M. apfelbecki: see ASSING (2008a).

P. mussardi: Holotype ♂ [considerably damaged prior to present study; remounted]: "Maroc, El Mondgir, 14.I.62, Mussard / Holotypus / Pseudomedon (s. str.) mussardi n. sp., det. Bordoni 1980 / Pseudomedon obscurellus (Erichson) det. V. Assing 2009" (MHNG).

A d d i t i o n a l m a t e r i a l e x a m i n e d: Spain: 3 exs., Murcia, Sierra de Carrascoy, 25.III.1959, leg. Besuchet (MHNG, cAss). Germany: 1 ex., Hessen, Viernheim near Mannheim, 13.III.1927 (MNHUB); 2 exs., Brandenburg, Kremmer Luch, 28.IV.1912, leg. Spaney & Heyn (MNHUB); 1 ex., Chorin env., Plage-Fenn, sifted from Sphagnum, VI.1912, leg. Spaney (MNHUB); 1 ex., Sachsen, Leipzig, Ritterwerder, 16.VIII.1950, leg. Dorn (MNHUB); 1 ex., same data, but 22.VII.1950 (cAss); 1 ex., Sachsen, Eilenburg, 14.II.1946, leg. Linke (MNHUB). Italy: 1 ex., Liguria, Bordighera (SDEI); 1 ex., Lago Mucrone (VC), VII.1982, leg. Dacatsa (MNHUB); 2 exs., Sardegna, Cagliari, IV.1898, leg. Lostia (MNHUB). Hungary: 1 ex., Bugac, Kiskunsag National Park, light, 12.-13.VI.1979, leg. Uhlig (MNHUB). Bosnia-Herzegovina: 2 ♀♀ [*apfelbecki* morph], Zeljeznica Rijeka, 18.XI.1937, leg. Fodor (HNHM); 2 exs. [1 ex. *apfelbecki* morph], Iliđe, leg. Apfelbeck (MNHUB). 2 exs., Caplina, dolinje blato (MNHUB). Macedonia: 4 exs. [3 exs. *apfelbecki* morph], Skopje env., Matka, bank of Treska river, 2.VI.1980, leg. Hieke (MNHUB, cAss). Bulgaria: 1 ex., Rupite near General Todorow, 6.V.1984, leg. Hieke (MNHUB); 3 exs., same data, but 3.-4.V.1984 (MNHUB, cAss). Greece: m a i n l a n d: 1 ex. [*apfelbecki* morph], Parnassos, Gravia, Kifisos, 300 m, 22.IV.1995, leg. Frisch (MNHUB); 5 exs. [*apfelbecki* morph], Giona Oros, Lefkaditi, 400 m, 21.IV.1995, leg. Frisch (MNHUB, cAss). P e l o p o n n i s o s: 8 exs. [*apfelbecki* morph], Killini Oros, Kastanea, 900 m, 18.IV.1995, leg. Frisch (MNHUB); 9 exs. [*apfelbecki* morph], Killini Oros, Stimfalia, 900 m, 17.IV.1995, leg. Frisch (MNHUB); 1 ex. [*apfelbecki* morph], Killini Oros, Mosia, 900 m, 18.IV.1995, leg. Frisch (cAss); 8 exs. [*apfelbecki* morph], Erimanthos, Lambia, 850 m, 20.IV.1995, leg. Frisch (MNHUB, cAss); 1 ex., Erimanthos, Stavrodromi, 23.II.1993, leg. Karner 1 ex. [*apfelbecki* morph], Levdi, Vitina, 1000 m, 19.IV.1995, leg. Frisch (cAss); 2 exs. [*apfelbecki* morph], Tripotama, 650 m, 20.IV.1995, leg. Frisch (MNHUB, cAss); 11 exs. [9 exs. *apfelbecki* morph], Kandilu, Kaskalon, 1000 m, 19.IV.1995, leg. Frisch (MNHUB, cAss). C r e t e: 1 ex., Chania, Samaria gorge, 2.VI.1981, leg. Mühle (MNHUB). Turkey: K a s t a m o n u: 3 exs., 10 km E Ciphani, Araç, 900 m, 30.V.1997, leg. Frisch (MNHUB, cAss); 1 ex., Ilgaz Geç., 1250 m, 29.V.1997, leg. Frisch (MNHUB). T o k a t: 2 exs., 10 km SE Umurca, 650 m, 26.V.1997, leg. Frisch (MNHUB, cAss). Y o z g a t: 6 exs., 15 km NE Akdağmadeni, 1200 m, 27.V.1997, leg. Frisch (MNHUB, cAss). S i v a s: 1 ex., 5 km S Kurbağalibeli Geç., 1500 m, 21.V.1997, leg. Frisch (MNHUB); 1 ex., 5 km N Kurbağalibeli Geç., 1500 m, 21.V.1997, leg. Frisch (MNHUB); 1 ex., Gürün, 1400 m, 20.V.1997, leg. Frisch (MNHUB). G i r e s u n: 1 ex., 5 km E Sebinkarahisar, 1400 m, 22.V.1997, leg. Frisch (MNHUB); 1 ex., Doğankent, 300 m, 25.V.1997, leg. Frisch (MNHUB). G ü m ü ş h a n e: 1 ex., Kelkit, 1400 m, 23.V.1997, leg. Frisch (MNHUB). E r z u r u m: 1 ex., Azort, 12.V.1967, leg. Besuchet (MHNG). I z m i r: 1 ex., "Smyrna" (MHNG). A d a n a: 1 ex., N Feke, Yeşilvaki, 800 m, 19.V.1997, leg. Frisch (MNHUB); 1 ex., 15 km N Kozan, 600 m, 19.V.1997, leg. Frisch (MNHUB). Georgia: 1 ex., Mzcheta near Tbilisi, flood debris, 12.-13.VI.1987, leg. Wrase & Schülke (MNHUB). Azerbaijan: 4 exs., Lenkoran, 1897, leg. Korb (MNHUB); 1 ex., Talysh, 1897, leg. Korb (MNHUB). Iran: 2 exs., Semnan province, 17 km N Shahmirzad, 5 km S Chashm, 35°51'N, 53°18'E, 2040 m, 22.V.2006, leg. Frisch & Serri (MNHUB, cAss); 1 ex., Tehran province, road Damavand-Firuzkuh, 30 km SW Firuzkuh, 35°41'N, 52°28'E, 2010 m, 21.V.2006, leg. Frisch & Serri (MNHUB); 1 ex., Mazandaran province, 35 km SW Pol-e Sefid, Sheshrudbar, 36°00'N, 52°52'E, 1540 m, 8.VI.2006, leg. Frisch & Serri (MNHUB); 1 ex., Golestan province, 11 km S Ramiyan, 36°56'N, 55°08'E, 530 m, 6.VI.2006, leg. Frisch & Serri (MNHUB); 1 ex., Golestan province, 25 km SSW Fazelabad, Mohammadabad, 36°43'N, 54°48'E, 5.VI.2006, leg. Frisch & Serri (cAss).

C o m m e n t: The original description of *P. mussardi* is based on a single holotype male from "Marocco, El Mondgir" (BORDONI 1980). An examination of the holotype revealed that it is identical to *P. obscurellus* in external characters, as well as in the shape of the male sternite VIII and in the morphology of the aedeagus; hence the synonymy proposed above. BORDONI (1980) compares *P. mussardi* with *P. obsoletus* (NORDMANN)

and *P. africanus* COIFFAIT, but there is no reference whatsoever to *P. obscurellus*; the figures of the aedeagus of the holotype of *P. mussardi* in BORDONI (1980) are rather misleading.

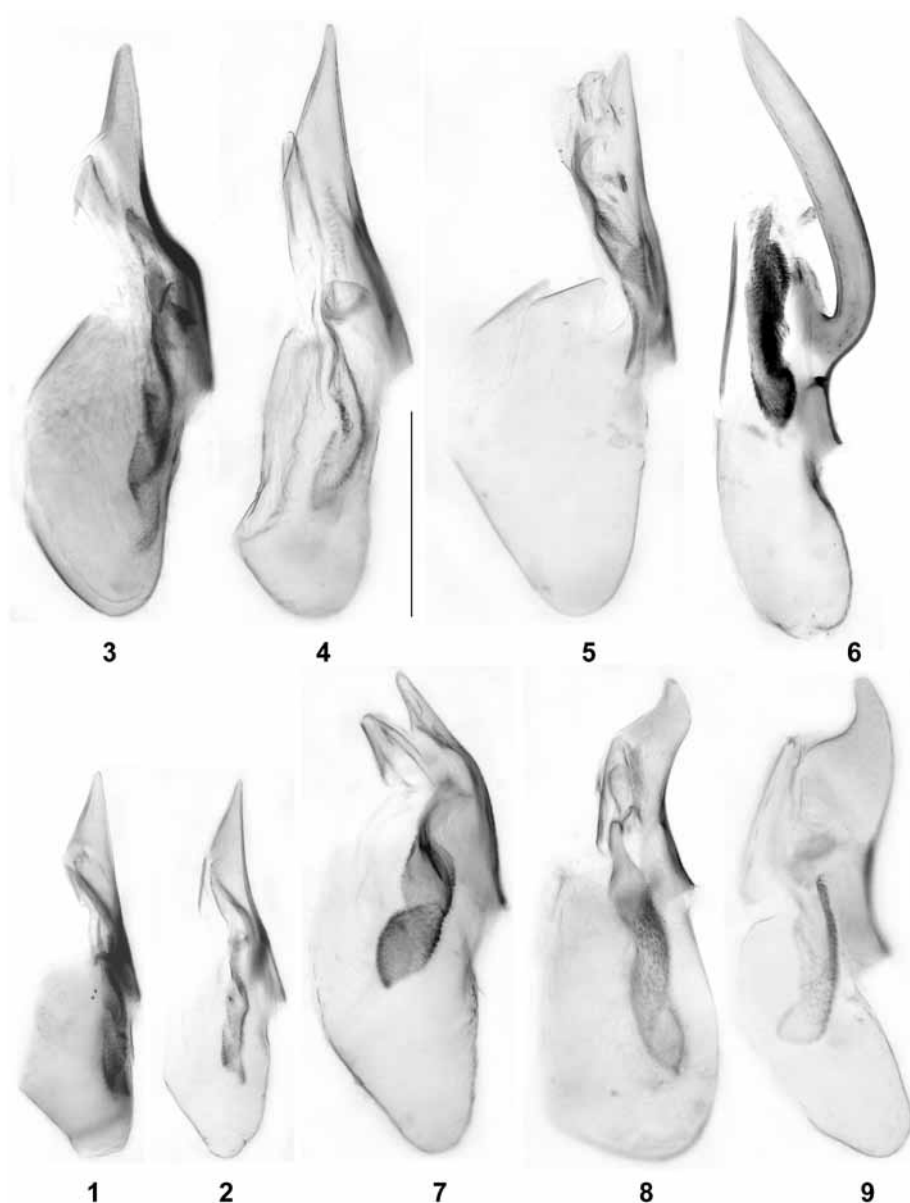
Scymbalium minimum EPPELSHEIM and *Medon apfelbecki* BERNHAUER were synonymised with *P. obscurellus* by ASSING (2008a).

Lithocharis brevipes WOLLASTON, which was previously regarded as a junior synonym of *P. obsoletus*, was originally described from Madeira. However, *P. obsoletus* is absent from this archipelago (ASSING & SCHÜLKE 2006), so that *L. brevipes* most likely refers to *P. obscurellus*.

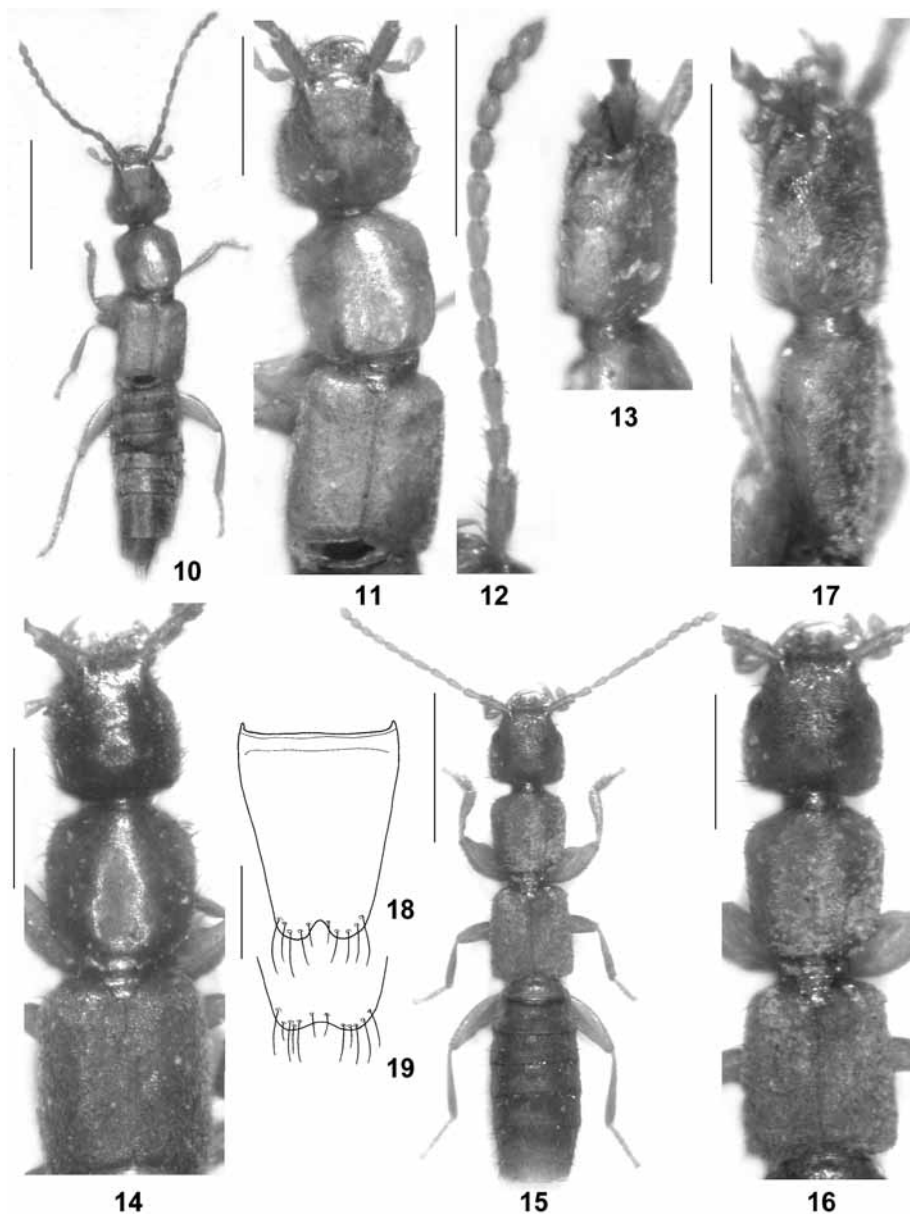
Pseudomedon obscurellus had a confusing history of taxonomic interpretation. In the second half of the 19th century and into the first half of the 20th century, the name was largely regarded as a junior synonym of *P. obsoletus* (BERNHAUER & SCHUBERT 1912, FAUVEL 1869, 1873). Subsequently, it was confused with *P. obsoletus*, even as late as 1964 (LOHSE 1964). COIFFAIT (1970, 1984) figured the genitalia of both species for the first time. Apparently based on Coiffait's interpretation, LOHSE (1989) corrected his previous concept, stating that what he had regarded as *P. obsoletus* was in fact *P. obscurellus* and vice versa. A recent examination of a female syntype of *P. obscurellus* revealed that the current interpretation of this name is correct. To my knowledge, the type material of *P. obsoletus* has not been examined.

According to SMETANA (2004), the distribution of *P. obscurellus* is confined to the Western Palaearctic region, whereas *P. obsoletus* has been reported also from both North and South America, as well as from the Australian and Afrotropical regions. However, practically all the records from outside the Western Palaearctic region and many records from the Palaearctic records are based on older literature sources (before 1970), when both names were either confused or confounded. Consequently, the distributions of *P. obscurellus* and *P. obsoletus* require revision. The former was recently recorded from Chile (ASSING 2008b), suggesting that the record of *P. obsoletus* from Chile by FAUVEL (1867) is based on a misidentification and refers to *P. obscurellus*. The same may be true of all other records of *P. obsoletus* from regions other than the Western Palaearctic region and, for that matter, also of numerous records from the Western Palaearctic region. For instance, previous records of *P. obsoletus* from Madeira were found to be erroneous and to refer to *P. obscurellus* (ASSING & SCHÜLKE 2006). At present the confirmed distribution of *P. obscurellus* includes the Western Palaearctic region (from Madeira, Northwest Africa, and the Iberian Peninsula eastwards to the Turkey and the Caucasus region) and Chile.

For additional records, comments on ecology and intraspecific variation, e.g., the pronounced polymorphism of wings, eyes, and pigmentation, as well as for illustrations of sexual and external characters see ASSING (2008b).



Figs 1-9: Aedeagus in lateral view of *Pseudomedon obscurellus* (ERICHSON) (1-2), *P. obsoletus* (NORDMANN) (3), *P. huetheri* (HUBENTHAL) (4), *P. lecoqi* COIFFAIT, paratype (5), *P. mirei* COIFFAIT, holotype (6), *P. dido* (SAULCY) (7), *P. kazakhstanicus* ASSING, paratype (8), and *P. afghanicus* ASSING, holotype (9). Scale bar: 0.2 mm.



Figs 10-19: *Pseudomedon pallidus* (FAUVEL), lectotype (10-13), *P. mirei* COIFFAIT, holotype (14), *P. lecoqi* COIFFAIT, paratype (15-17), *P. obscurellus* (ERICHSON) (18), and *P. obsoletus* (NORDMANN) (19): (10, 15) habitus; (11, 14, 16) forebody; (12) antenna; (13) head in lateral view; (17) head and pronotum in lateral view; (18) male sternite VIII; (19) posterior portion of male sternite VIII. Scale bars: 10, 15: 1.0 mm; 11-14, 16-17: 0.5 mm; 18-19: 0.2 mm.

***Pseudomedon obsoletus* (NORDMANN 1837) (Figs 3, 19)**

Lathrobium obsoletum NORDMANN 1837: 146.

Sunius marginalis STEPHENS 1839: 407.

Sunius unicolor STEPHENS 1839: 407.

Sunius unicolor CURTIS 1840: 277.

Lithocharis opaca FERRARI 1858: 987.

Lithocharis aterrima SAUCLEY 1863: 36.

Material examined [see also ASSING 2008b]: Turkey: 2 exs., Samsun, 15 km NW Bafra, Karaboğaz Gölü, 41°41'N, 35°48'E, 0 m, beach, flood debris, sifted, 30.III.2009, leg. Assing (cAss); 1 ex., Samsun, 9 km WNW Bafra, 41°35'N, 35°50'E, 55 m, mixed deciduous forest with oak, *Hedera* and *Rubus* undergrowth, 30.III.2009, leg. Assing (cAss). Kazakhstan: 2 exs., Ural river, Bogatskoe, 16.X.1980, leg. Kastcheev (cAss).

Comment: None of the above synonyms has been revised. Due to the history of taxonomic confusion of *P. obsoletus* and *P. obscurellus*, it does not seem unlikely that some of these synonyms in fact refer to *P. obscurellus*.

The distribution of this species is apparently much less extensive than indicated by SMETANA (2004). Confirmed records have become known only from the Western Palaearctic region (including Middle Asia), from the Iberian peninsula eastwards to Kazakhstan (ASSING 2008b). Owing to the fact that *P. obsoletus* was either confused or confounded with *P. obscurellus* at least until 1970, the distribution of this species requires revision and the records from regions other than the Western Palaearctic are probably based on misidentifications. For further explanations and a discussion see the comments in the section on *P. obscurellus*.

***Pseudomedon huetheri* (HUBENTHAL 1927) (Fig. 4)**

Medon Hütheri HUBENTHAL 1927: 42 f.

Medon Hütheri helveticus KOCH 1938: 104 ff.

Type material examined: see ASSING (2008b).

Additional material examined: see ASSING (2008b).

Comment: Correctly identified specimens of *P. huetheri* have been seen only from southern Germany and southern Switzerland (ASSING 2008b). According to SMETANA (2004), the species has been reported also from Austria, Slovakia, and Macedonia, but these records require confirmation.

***Pseudomedon mirei* COIFFAIT 1980 (Figs 6, 14; Map 2)**

Pseudomedon (s. str.) *mirei* COIFFAIT 1980: 45.

Pseudomedon (s. str.) *africanus* COIFFAIT 1980: 43 ff.; **nov.syn.**

Type material examined: *P. mirei*: Holotype ♂: "Dj. Mana, Darfour, P. d. M. / Source Guendi, 2000 m, XI.69 / Type / *Pseudomedon mirei* H. Coiffait 1980 / Muséum Paris, Coll. J. Jarrige / *Pseudomedon mirei* Coiffait det. V. Assing 2009" (MNHN). Paratypes: 2 ♀ ♀: same data as holotype (MNHN).

Comment: The original description of *P. mirei* is based on a male holotype and two female paratypes from "Sahara algérien, Djebel Mana, Source Guendi, 2000 m, XI-74 [sic], de Miré leg." (COIFFAIT 1980). The altitude and additional data suggest that the type locality is situated in the Hoggar range in southeastern Algeria and not in the Djebel Mana in southwestern Algeria, whose altitude is less than 600 m.

COIFFAIT (1980) described *Pseudomedon africanus* from a single male from "Marécages de Bedo, zone du Bourkou, Tibesti", stating that the holotype was deposited in the Jarrige collection and that the species was distinguished from *P. mirei* by smaller size, paler coloration, smaller eyes, finer elytral punctuation, and the longer and more slender ventral process of the aedeagus. The holotype was looked for, but not found at the MNHNP (TAGHAVIAN pers. comm.), so that it must be considered lost. As can be inferred from the similar – and highly derived – morphology of the aedeagus (COIFFAIT 1980: figures 1K and 1L), the types of *P. mirei* and *P. africanus* are evidently conspecific. Also, both names were described from the same region. The type locality of *P. africanus* is in Chad, not in Libya as indicated by SMETANA (2004). The external differences mentioned by COIFFAIT (1980) suggest that the holotype of *P. africanus* probably was a teneral specimen.

D i a g n o s i s : External morphology (Fig. 14) highly similar to that of the macropterous morph of *P. obscurellus*, distinguished only by the dark-brown antennae, the less densely punctured and somewhat more shiny head, and by the male sexual characters.

♂: posterior margin of sternite VIII with deeper and larger excision; aedeagus with long and slender process of characteristic shape (Fig. 6).

C o m p a r a t i v e n o t e s : This species is distinguished from all its congeners particularly by the characteristic morphology of the aedeagus, from *P. obsoletus* also by the reddish-brown coloration of the pronotum, elytra, and abdomen (usually blackish in *P. obsoletus*), the less densely punctured and more shiny head, the less strongly dilated male protarsomeres I-IV, and the much deeper posterior excision of the male sternite VIII. For characters separating it from *P. obscurellus* see the diagnosis above.

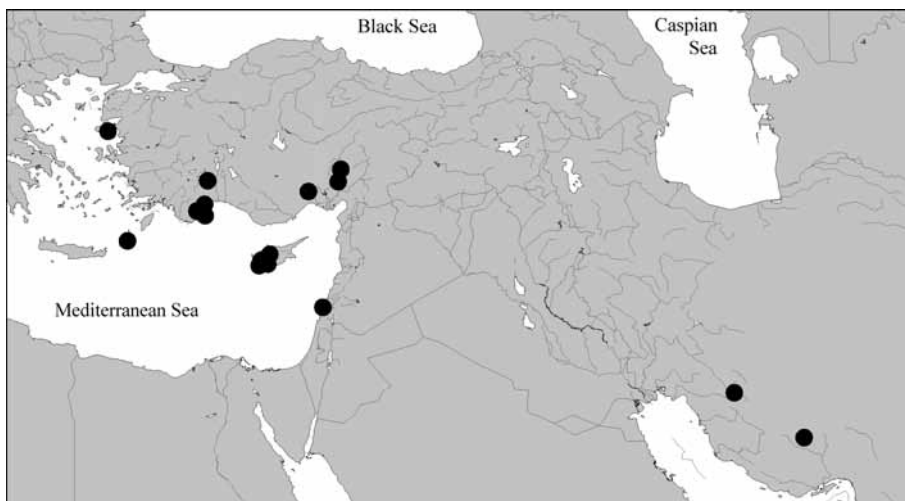
D i s t r i b u t i o n : *Pseudomedon mirei* is currently known only from the type locality in Algeria and from the type locality of *P. africanus* in Chad (Map 2).

***Pseudomedon dido* (SAULCY 1865) (Fig. 7; Map 1)**

Lithocharis dido SAULCY 1865: 651.

A d d i t i o n a l m a t e r i a l e x a m i n e d : Greece: K a r p a t h o s : 8 exs., Aperi, 300 m, 28.IV.1004, leg. Frisch (MNHUB, cAss); 11 exs., Aperi, 200 m, 25.IV.1004, leg. Frisch (MNHUB, cAss). Turkey: A d a n a : 1 ex., N Fekke, Yeşilvaki, 800 m, 19.V.1997, leg. Frisch (MNHUB); 2 exs., 15 km N Kozan, 600 m, 19.V.1997, leg. Frisch (MNHUB). Cyprus: 5 exs., Troodos, Agios Mamas, 450 m, 18.III.1996, leg. Frisch (MNHUB, cAss); 1 ex., Agios Georgios, Diarizos river, 150 m, 14.III.1996, leg. Frisch (cAss); 2 exs., Diarizos river, Kelefos bridge, 400 m, 7.III.1996, leg. Frisch (MNHUB); 1 ex., Vyzakia, Elaia river, 250 m, 17.III.1996, leg. Frisch (MNHUB); 1 ex., Limnatis river, 200 m, 9.III.1996, leg. Frisch (MNHUB). Iran: 2 exs., Fars province, SE Darab, 12 km N Rostaq, Layzangan, 28°41'N, 54°59'E, 2010 m, 23.IV.2006, leg. Frisch & Serri (MNHUB); 1 ex., Fars province, SE Sepidan, W Dalkhon, 30°17'N, 52°06'E, 2100 m, 9.V.2007, leg. Frisch & Serri (cAss).

C o m m e n t : Until recently, this species was confounded with the externally similar brachypterous morph of *P. obscurellus* (ASSING 2008b). The above specimens from Cyprus and Iran represent new country records. In Greece, the species was previously known only from Lesbos island. For additional records see ASSING (2008b). The revised distribution is illustrated in Map 1.



Map 1: Revised distribution of *Pseudomedon dido* (SAULCY).

***Pseudomedon pallidus* (FAUVEL 1902) (Figs 10-13; Map 2)**

Euphonus pallidus FAUVEL 1902: 182.

Type material examined: Lectotype ♀ [slightly damaged]: "Bordj men ail [=Bordj Menail], Kabylie / pallidus Fvl. / Ex-Typis / Lectotype / Lectotypus Euphonus pallidus Fauvel, rev. V. Assing 2009 / Pseudomedon pallidus (Fauvel) det. V. Assing 2009" (IRSNB).

C o m m e n t : The original description of *Euphonus pallidus* is based on two syntypes from "Bordj-Men-Aïl" and "Djelfa" (FAUVEL 1902). One of these type specimens, a female, was located in the Fauvel collection at the IRSNB. In referring to this specimen as "le type", COIFFAIT (1984) designated it as the lectotype.

Pseudomedon pallidus is the type species of the genus group name *Euphonus* FAUVEL 1902, which according to FAUVEL (1902) and COIFFAIT (1984) is distinguished from the subgenus *Pseudomedon* by the presence of a superficial, more or less distinct median furrow or shiny median line of the pronotum, the more or less distinctly reduced pigmentation, smaller eyes, more slender antennae, and the more or less distinctly visible tentoria. However, the presence or absence of a distinct (shiny or impressed) midline is subject to pronounced intrageneric – and sometimes intraspecific – variation in Medonina. Also, the reductions of pigmentation and eye size, as well as the relative length of the antennae and the legs are adaptations to the probably endogean habitat. And finally, the visibility of the tentoria (darkish spots) is due to the reduced pigmentation. As has been suspected earlier (ASSING 2008b) and as is now confirmed based on an examination of the type species of *Euphonus*, the characters distinguishing *Euphonus* from *Pseudomedon* are variable, a result of an adaptation to an endogean habitat, not discreet, and most unlikely to be synapomorphic, suggesting that *Euphonus* is an artificial taxon. Based on the male sexual characters, *P. huetheri* HUBENTHAL 1927 was already moved from *Euphonus* to *Pseudomedon* by ASSING (2008b). There is no evidence whatsoever that the species still in *Euphonus* on the one hand and the species currently in *Pseudomedon* should constitute monophyletic groups, so that *Euphonus* is placed in synonymy with *Pseudomedon*.

D i a g n o s i s : Similar in size and general appearance (Fig. 10) to the brachypterous morph of *P. obscurellus* and particularly to *P. dido*. Body length: 3.4 mm. Coloration of whole body almost uniformly yellowish.

Head distinctly dilated behind eyes (Fig. 11). Eyes of reduced size, approximately as large as antennomere I in cross-section (Fig. 13), approximately 0.3 times as long as postocular region in dorsal view. Antenna slender (Fig. 12); antennomere III approximately 2.5 times as long as wide; IV-VI twice as long as wide; VII 1.5 times as long as wide; VIII-X weakly oblong. Elytra 0.97 times as long as pronotum.

C o m p a r a t i v e n o t e s : This species is readily distinguished from all its congeners by the smaller eyes, from *P. obscurellus* additionally by the more slender antennae, and from *P. huetheri* by smaller size.

D i s t r i b u t i o n : This evidently extremely rare species is currently known only from the type locality in Algeria (Map 2).



Map 2: Distributions of *Pseudomedon pallidus* (FAUVEL) (filled circle), *P. mirei* COIFFAIT (open circles), *P. chobauti* COIFFAIT (filled square), and *P. lecoqi* COIFFAIT (open square).

***Pseudomedon lecoqi* COIFFAIT 1980 (Figs 5, 15-17; Map 2)**

Pseudomedon (*Euphonus*) *lecoqi* COIFFAIT 1980: 45 f.

T y p e m a t e r i a l e x a m i n e d : Paratype ♂: "Paso de Despeñaperros / Province de Jaen, 3.IV.72 / Paratype / *Pseudomedon* (*Euphonus*) *lecoqi* H. Coiffait 1979 / Muséum Paris 1985, Coll. H. Coiffait / *Pseudomedon lecoqi* Coiffait det. V. Assing 2009" (MNHN).

C o m m e n t : *Pseudomedon lecoqi* was described from a male holotype (deposited in

the collection of J. C. Lecoq) and three paratypes collected at "Paso de Despeñaperros, Sierra Morena, IV-69" (COIFFAIT 1980). According to the original description (COIFFAIT 1980) and the key in COIFFAIT (1984), *P. lecoqi* is distinguished from *P. pallidus* only by the much larger eyes ("yeux nettement plus grands") and the slightly shorter antennae. A comparison of the male paratype of *P. lecoqi* deposited in the Coiffait collection at the MNHNP and the lectotype of *P. pallidus* revealed that indeed the eyes of *P. lecoqi* are slightly larger (approximately as large as in *P. dido*) and the elytra are shorter (again similar to those of *P. dido*), but no difference in antennal length was observed. Since the male of *P. pallidus* is unknown, it is not certain if the types of *P. pallidus* and *P. lecoqi* represent different species. Eye size and elytral length are subject to considerable intraspecific variation also in other *Pseudomedon* species (*P. obscurellus*, *P. huetheri*) (ASSING 2008b).

D i a g n o s i s : Externally similar to the brachypterous morph of *P. obscurellus* and practically indistinguishable from *P. dido*. Habitus as in Fig. 15. Body length: 3.6 mm. Coloration of whole body pale yellowish-brown, with the abdomen slightly darker.

Head not distinctly dilated behind eyes (Fig. 16). Eyes larger than antennomere I in cross-section (Fig. 17), approximately half as long as postocular region in dorsal view. Antenna slender, similar to that of *P. dido*. Elytra short, 0.85 times as long as pronotum.

♂: posterior margin of sternite VIII with shallow, broadly V-shaped posterior excision (distinctly less deep than in *P. dido*); aedeagus as in Fig. 5.

C o m p a r a t i v e n o t e s : This species is reliably separated from the similar *P. dido* only by the less deep posterior excision of the male sternite VIII and the different shape of the aedeagus, from the brachypterous morph of *P. obscurellus* also by the longer antennae, and from *P. pallidus* by the larger eyes and the longer elytra.

D i s t r i b u t i o n : Like the preceding species, *P. lecoqi* is apparently extremely rare. To my knowledge, it has become known only from the type locality in southern Spain (Map 2).

***Pseudomedon chobauti* COIFFAIT 1970 (Map 2)**

Pseudomedon (Euphonus) chobauti COIFFAIT 1970: 280.

C o m m e n t : The original description is based on a male holotype and a male paratype from "environs d'Avignon, bords de la Durance" and a female paratype from "Avignon". The type specimens were looked for, but not found in the collections of the MNHNP (TAGHAVIAN pers. comm.).

A d d i t i o n a l m a t e r i a l e x a m i n e d : France: Provence: 1♀, Avignon, flood, 17.VIII.1905, leg. Chobaut (MNHNP); 1♀, Avignon, flood of Rhône river, flood debris, 24.IX.1905, leg. Chobaut (MNHNP).

D i a g n o s i s : Externally similar to *P. dido*, but distinguished as follows:

Body larger, 3.7-4.7 mm. Coloration paler; body uniformly dark-yellowish, abdomen as pale as forebody or slightly darker; legs and antennae pale yellowish.

Head approximately as wide as long; antennae more slender, of similar morphology as in *P. huetheri*. Elytra longer and broader than in *P. dido*, as long as, or slightly longer than pronotum.

C o m p a r a t i v e n o t e s : *Pseudomedon chobauti* is distinguished from other pale-coloured congeners distributed in the Mediterranean region as follows:

from *P. lecoqi* and the brachypterous morph of *P. obscurellus* by the same characters that distinguish it from *P. dido* (see diagnosis above);

from *P. pallidus* by much larger size, more slender antennae, and much larger eyes.

Distribution and bionomics: The known distribution of *P. chobauti* is confined to Provence, southeastern France (Map 2). The fact that it appears to have been collected exclusively during floods, usually in flood debris on river banks, suggests that its ecology is similar to that of *P. huetheri*. Its reproduction habitat is unknown, but apparently subterranean.

***Pseudomedon kazakhstanicus* ASSING 2008 (Fig. 8)**

Pseudomedon kazakhstanicus ASSING 2008b: 1258 f.

Additional material examined: Kazakhstan: 5 exs., Aidarly, Ile river, 12.IV.1984, leg. Kastcheev (MNHUB); 3 exs., same data, but 6.I.1984 (cAss); 1 ex., same data, but 15.IV.1983 (MNHUB); 2 exs., same data, but 20.IV.1985 (MNHUB); 3 exs., same data, but 22.IV.1984 (MNHUB); 1 ex., Aksu-Djabagly, Kshi-Kaindy, 17.V.1985, leg. Kastcheev (MNHUB).

Comment: This recently described species has become known only from several localities in Kazakhstan (ASSING 2008b). The length of the aedeagus of *P. kazakhstanicus* and *P. afghanicus* is 0.47 mm, not 0.33 mm as indicated in the original descriptions of these species.

***Pseudomedon afghanicus* ASSING 2008 (Fig. 9)**

Pseudomedon kazakhstanicus ASSING 2008b: 1256 ff.

Comment: This recently described species is known only from one locality near Kandahar, Afghanistan (ASSING 2008b).

Key to the Palaearctic species of *Pseudomedon*

- 1 Pale-coloured species, forebody or whole body yellowish, reddish, or yellowish-brown...2
 - Dark-coloured species, at least head and abdomen dark brown to blackish.....8
- 2 Antennae short, approximately 1.0 mm long; antennomere IV usually less than twice as long as broad. Distribution: Kazakhstan and Afghanistan.....3
 - Antennae longer, at least approximately 1.2 mm long; antennomere IV at least twice as long as broad, usually distinctly more slender. W-Palaearctic, eastwards to Iran.....4
- 3 Aedeagus as in Fig. 8. Kazakhstan.....*P. kazakhstanicus* ASSING
 - Aedeagus as in Fig. 9. Afghanistan.....*P. afghanicus* ASSING
- 4 Eyes very small, approximately as large as antennomere I in cross-section (Fig. 13). Aedeagus unknown. N-Algeria: Kabylie (Map 2).....*P. pallidus* (FAUVEL)
 - Eyes often small, but always larger than antennomere I in cross-section. Distribution different.....5
- 5 Species from the Western Mediterranean west of Italy.....6
 - Species from the Eastern Mediterranean east of Italy.....7
- 6 Elytra distinctly shorter, approximately 0.85 times as long as pronotum (Fig. 16). Antennae shorter, approximately 1.3 mm long; antennomeres III-V 2-2.5 times as long as broad. Aedeagus as in Fig. 5. S-Spain: Andalucía (Map 2).....*P. lecoqi* COIFFAIT

- Elytra approximately as long as pronotum. Antennae long and slender, approximately 1.5-1.6 mm long; antennomeres III-V approximately 3 times as long as broad or nearly so. Aedeagus as illustrated in COIFFAIT (1984: figures 35G-I). SE-France: Provence (Map 2).....*P. chobauti* COIFFAIT
- 7 Aedeagus as in Fig. 7. Eastern Mediterranean, from the Greek islands Karpathos and Lesbos to Iran (Map 1).....*P. dido* (SAULCY)
- Aedeagus as in Figs 1-2. Balkans.....*P. obscurellus* (ERICHSON) (brachypterous morph)
- 8 Antennae conspicuously long and slender; antennomeres III-VI approximately three times as long as broad or nearly so; X weakly oblong. Aedeagus as in Fig. 4. Confirmed records from S-Germany and S-Switzerland.....*P. huetheri* (HUBENTHAL)
- Antennae shorter; antennomeres V-VI approximately twice as long as broad; X as broad as long or transverse.....9
- 9 Male sternite VIII with deeply V-shaped posterior incision. Aedeagus highly distinctive, with sickle-shape ventral process (Fig. 6). Known only from the northern parts of the Sahara (S-Algeria, Chad) (Map 2).....*P. mirei* COIFFAIT
- Male sternite VIII with shallow or moderately deep posterior incision. Ventral process of aedeagus not sickle-shaped. Widespread and common in most of the Western Palaearctic region.....10
- 10 Male protarsomeres I-IV strongly dilated; posterior margin of male sternite VIII rather shallowly concave (Fig. 19); aedeagus larger, approximately 0.55-0.60 mm long, shaped as in Fig. 3. Body on average of darker coloration, usually blackish-brown to blackish, with dark-brown to blackish-brown legs and antennae. Widespread and rather common in the W-Palaearctic eastwards to Kazakhstan*P. obsoletus* (NORDMANN)
- Male protarsomeres I-IV moderately dilated; posterior margin of male sternite VIII V-shaped (Fig. 18); aedeagus distinctly smaller, 0.35-0.42 mm long, shaped as in Figs 1-2. Body usually of paler coloration; at least pronotum and elytra usually reddish brown to brown; legs and antennae usually reddish to reddish-brown. Widespread and common in the W-Palaearctic*P. obscurellus* (ERICHSON) (macropterous morph)

Catalogue of the *Pseudomedon* species of the Palaearctic region

The valid names are given in alphabetical order; the synonyms are sorted by publication year. The distributions are based exclusively on confirmed records and on reliable primary literature records.

species	distribution
<i>afghanicus</i> ASSING 2008	Afghanistan
<i>chobauti</i> COIFFAIT 1970	SE-France: Provence
<i>dido</i> (SAULCY 1865)	Greece: Karpathos, Lesbos; Turkey; Cyprus; Lebanon; Iran
<i>huetheri</i> (HUBENTHAL 1927) = <i>helveticus</i> (KOCH 1938)	S-Germany, S-Switzerland
<i>kazakhstanicus</i> ASSING 2008	Kazakhstan
<i>lecoqi</i> COIFFAIT 1980	S-Spain: Andalucía (Jaén)
<i>mirei</i> COIFFAIT 1980 = <i>africanus</i> COIFFAIT 1980; nov.syn.	S-Algeria; Chad

species	distribution
<i>obscorellus</i> (ERICHSON 1840) = <i>brevipes</i> (WOLLASTON 1860); nov.syn. = <i>minimus</i> (EPPELSHEIM 1888) = <i>apfelbecki</i> (BERNHAEUER 1899) = <i>mussardi</i> BORDONI 1980; nov.syn.	W-Palaeartic (excl. Middle Asia); Chile
<i>obsoletus</i> (NORDMANN 1837) = <i>marginalis</i> (STEPHENS 1839) = <i>unicolor</i> (STEPHENS 1839) = <i>unicolor</i> (CURTIS 1840) = <i>opacus</i> (FERRARI 1858) = <i>aterrimus</i> (SAUCLY 1863)	W-Palaeartic (excl. Atlantic Islands); Middle Asia: Kazakhstan
<i>pallidus</i> (FAUVEL 1902)	N-Algeria: Kabylie

Acknowledgements

I am much indebted to the colleagues indicated in the material section for the loan of material under their care, to Lee H. Herman (New York) for making the *Pseudomedon* part of his unpublished catalogue available to me, and to Benedikt Feldmann (Münster) for proof-reading the manuscript.

Zusammenfassung

Nach Untersuchung von Typen und weiterem Material ist die Gattung *Pseudomedon* mit zehn validen Arten in der Paläarktis vertreten. Vier Namen werden synonymisiert: *Pseudomedon* MULSANT & REY 1878 = *Euphonus* FAUVEL 1902, nov.syn.; *P. obscorellus* (ERICHSON 1840) = *P. mussardi* BORDONI 1980, nov.syn., = *P. brevipes* (WOLLASTON 1860), bislang Synonym von *P. obsoletus* (NORDMANN 1837); *P. mirei* COIFFAIT 1980 = *P. africanus* COIFFAIT 1980, nov.syn. Eine Bestimmungstabelle und ein Katalog werden erstellt. Die Aedoeagi sowie weitere Merkmale einiger wenig bekannter Arten werden abgebildet. Die Verbreitungsgebiete von fünf Arten werden anhand von Karten illustriert.

References

- ASSING V. (2008a): A revision of the *Micrillus* species of the Palaeartic region, with notes on two species from adjacent parts of the Afrotropical and Oriental regions (Coleoptera: Staphylinidae: Paederinae). — Stuttgarter Beiträge zur Naturkunde Serie A, Neue Serie **1**: 301-344.
- ASSING V. (2008b): On the taxonomy and zoogeography of some Palaeartic Paederinae and Xantholinini (Coleoptera: Staphylinidae). — Linzer biologische Beiträge **40** (2): 1237-1294.
- ASSING V. & M. SCHÜLKE (2006): Systematic catalogue of the entomofauna of the Madeira archipelago and Selvagens Islands. Staphylinoida, Staphylinidae (Coleoptera). Vol. II, Part 2. — Boletim do Museu Municipal do Funchal, Sup. **11**: 5-167.
- BORDONI A. (1980): Studi sui Paederinae. IX. Nuove specie raccolte in Tunisia e Marocco (Col. Staphylinidae). — Redia **63**: 215-219.
- COIFFAIT H. (1970): Les *Pseudomedon* de la région paléarctique occidentale. — Revue d'Écologie et de Biologie du Sol **7**: 277-282.
- COIFFAIT H. (1980): Staphylinides nouveaux. — Nouvelle Revue d'Entomologie **10**: 37-49.

- COIFFAIT H. (1984): Coléoptères Staphylinidae de la région paléarctique occidentale. V. Sous famille Paederinae Tribu Paederini 2, Sous famille Euaesthetinae. — Supplément à la Nouvelle Revue d'Entomologie **13** (4): 1-424.
- CURTIS J. (1840): Descriptions, & c. of some rare or interesting indigenous insects. — Annals of Natural History; or Magazine of Zoology, Botany, and Geology **5**: 274-282.
- ERICHSON G.F. (1840): Genera et species Staphylinorum insectorum coleopterorum familiae. Zweiter Band. — Berlin, F.H. Morin: 401-954.
- FAUVEL A. (1867): Faune du Chili. Insectes coléoptères. Staphylinides (Suite et fin). — Notices entomologiques **5**: 1-61.
- FAUVEL A. (1873): Faune Gallo-Rhénane ou descriptions des insectes qui habitent la France, la Belgique, la Hollande, le Luxembourg, les provinces Rhénanes et la Valais avec tableaux synoptiques et planches gravées. Tome 3. Livraison 4. — Caen, Le Blanc-Hardel: 215-390.
- FAUVEL A. (1902): Catalogue des Staphylinides de la Barbarie, de la Basse-Égypte et des Îles Açores, Madères, Salvages et Canaries. — Revue d'Entomologie **21**: 45-189.
- FERRARI G.J.A. von (1858): [new taxon]; p. 987. — In: REDTENBACHER G., Fauna Austriaca. Die Käfer. Nach der analytischen Methode bearbeitet. Zweite, gänzlich umgearbeitete, mit mehreren Hunderten von Arten und mit der Charakteristik sämtlicher europäischen Käfergattungen vermehrte Auflage. — Wien, C. Gerold's Sohn: i-cxxvi, 977-1017.
- HUBENTHAL W. (1927): *Medon Hütheri* n.sp. — Entomologische Blätter **23**: 42-43.
- KOCH C. (1938): Über neue und wenig bekannte paläarktische Paederinae. — Entomologische Blätter **34**: 103-116.
- LOHSE G.A. (1964): Staphylinidae I (Micropeplinae bis Tachyporinae). — In: FREUDE H., HARDE K.W. & G.A. LOHSE (eds), Die Käfer Mitteleuropas. Band 4. — Krefeld, Goecke & Evers Verlag: 264 pp.
- LOHSE G.A. (1989): Ergänzungen und Berichtigungen zu Band 4. 23. Familie Staphylinidae (I) (Piestinae bis Tachyporinae). — In: LOHSE G.A. & W.H. LUCHT (eds), Die Käfer Mitteleuropas. 1. Supplementband mit Katalogteil. — Krefeld, Goecke & Evers Verlag: 121-127, 129-183.
- NORDMANN A. von (1837): Symbolae ad monographiam staphylinorum. Ex Academiae Caesareae Scientiarum. — Petropoli, Academiae Caesareae Scientiarum: 167 pp.
- SAULCY F.H.C. de (1863): [new taxon]; p. 36. — In: GRENIER A., Catalogue des coléoptères de France, par M. le Dr. A. Grenier, et matériaux pour servir à la faune des coléoptères français. — Paris, A. Grenier: iv + 3-79 + 135 pp.
- SAULCY F.H.C. de (1865): Descriptions des espèces nouvelles de coléoptères recueillies en Syrie, en Égypte et en Palestine, pendant les mois d'octobre 1863 à janvier 1864, par M. de Saulcy, sénateur, membre de l'Institut. 2^e partie. — Annales de la Société Entomologique de France (4) **4** (1864): 629-660.
- SMETANA A. (2004): Subfamily Paederinae FLEMING, 1821. — In: LÖBL I. & A. SMETANA (eds), Catalogue of Palaearctic Coleoptera. Volume 2. Hydrophiloidea – Histeroidea – Staphylinidea. — Stenstrup, Apollo Books: 579-624.
- STEPHENS J.F. (1839): A manual of British Coleoptera, or beetles; containing a brief description of all the species of beetles hitherto ascertained to inhabit Great Britain and Ireland; together with a notice of their chief localities, times and places of appearances, etc. — London, Longman, Orme, Brown, Green, and Logmans: xii + 443 pp.
- WOLLASTON T.V. (1860): On additions to the Madeiran Coleoptera. — The Annals and Magazine of Natural History (3) **6**: 48-54, 100-108.

Author's address:

Dr. Volker ASSING
 Gabelsbergerstr. 2
 D-30163 Hannover, Germany
 E-mail: vassing.hann@t-online.de